

REMARKS

At the time of the Office Action dated April 20, 2004, claims 1-16 were pending. Of those claims, claims 6-16 have been withdrawn from consideration pursuant to the provisions of 37 C.F.R. §1.142(b). Claims 1-5 stand rejected.

In this Amendment, claim 1 has been amended. Care has been exercised to avoid the introduction of new matter. Specifically, the amendment of claim 1 includes the limitation “said two divided arrays concurrently performing addition operation.” Adequate descriptive support for this amendment can be found on, for example, page 14, lines 13-19 of the specification. Independently generating final intermediate multiplication values for achieving a high speed multiplication apparently suggests a concurrent performance of the addition operation.

Claim 1 has been rejected under 35 U.S.C. §102(a) as being anticipated by Applicant’s admitted prior art of Fig. 18 of the present Application (“AAPA”).

In the statement of the rejection, the Examiner asserted that AAPA discloses a multiplication apparatus identically corresponding to what is claimed.

The factual determination of lack of novelty under 35 U.S.C. §102 requires the identical disclosure in a single reference of each element of the claimed invention, such that the identically claimed invention is placed into the possession of one having ordinary skill in the art. *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F. 3d 1339, 54 USPQ2d 1299 (Fed. Cir. 2000); *Electro Medical Systems S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994).

Based on the above legal tenet, Applicant submits that AAPA does not disclose a multiplication apparatus including all the limitations recited in claim 1, as amended, within the meaning of 35 U.S.C. §102. Specifically, Applicant notes that the Examiner overlooked the limitations “two divided arrays at a prescribed bit position of said multi-bit multiplier” and “independently generating said final intermediate multiplication values” for the divided arrays, as recited in claim 1. In addition, AAPA does not teach that the divided arrays of the claimed invention perform the addition operation concurrently.

In AAPA, intermediate products are sequentially generated in the order indicated by the arrows (see Fig. 18). Therefore, the arrays of AAPA are not divided at a prescribed bit position of the multiplier, and neither concurrently performs addition operation nor generates intermediate multiplication values independently of each other, as claimed. Accordingly, a propagation delay of intermediate products becomes significant to impede a high speed multiplication.

On the other hand, final intermediate multiplication values of the claimed invention are generated independently of each other by the two divided arrays performing the addition operation concurrently. The high speed operation can be achieved. Applicant notes that the divided array structure of the claimed invention indicates that interconnections of the arrays are also divided and provided for the respective divided arrays.

Accordingly, Applicant submits that AAPA does not disclose a multiplication apparatus including all the limitations recited in claim 1, and therefore, does not have identical disclosure of each element of the claimed invention in the meaning of 35 U.S.C. §102. Applicant, therefore, respectfully solicits withdrawal of the rejection of claim 1 and favorable consideration thereof.

Claims 2-5 have been rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Owaki.

In the statement of the rejection, the Examiner admitted that AAPA does not disclose a multiplication apparatus including all the limitations recited in claims 2-5. However, the Examiner asserted that Owaki teaches the missing features, and concluded that it would have been obvious to modify AAPA based on the teachings of Owaki to arrive at the present invention.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Based on this legal tenet, Applicant submits that the proposed combination of AAPA and Owaki does not teach or suggest a multiplication apparatus containing all the limitations recited in claims 2-5.

Specifically, AAPA does not teach a multiplication apparatus including all the limitations recited in claim 1, upon which claims 2-5 depend, for the reasons set forth above. Accordingly, AAPA does not teach or suggest a multiplication apparatus claimed in claims 2-5.

Moreover, it is apparent that Owaki does not teach or suggest a multiplication apparatus containing all the limitations recited in claims 2-5. Owaki simply discloses an arrangement of a carry save adder type multiplication apparatus, as shown in Fig. 14 of the present Application. This arrangement does not teach using a Booth encoder recited in claim 1, upon which claims 2-5 depend, and does not cure fundamental deficiencies of AAPA.

Therefore, Applicant submits that the proposed combination of AAPA and Owaki does not teach or suggest a multiplication apparatus including all the limitations recited in claims 2-5 within the meaning of 35 U.S.C. §103. Applicant respectfully solicits withdrawal of the rejection of claims 2-5 and favorable consideration thereof.

Conclusion.

Accordingly, it is urged that the application is in condition for allowance, an indication of which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, Examiner is requested to call Applicant's attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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Recognition under 37 C.F.R. 10.9(b)

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